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A communication device designed to speed the exchange of news, information and data on Regional Medical Programs

March 3, 1969
TODAY'S HEALTH FEATURE: "Regional Medical Programs
Mobilize Against Killer Diseases"

The January 1969 issue of TODAY'S HEALTH featured an article entitled "Regional Medical Programs Mobilize Against Killer Diseases." This feature is reproduced in this issue for those who may not have had the opportunity to see that publication.

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## Regional Medical Programs Mobilize Against Killer Diseases

Across the nation, Regional Medical Programs help improve patient care through research, education, and cooperative endeavors. The health projects focus on three major causes of death and disability: heart disease, cancer, and stroke.

### Text and photos by THEODORE BERLAND



For Dr. Jules J. McNerney, director of the Hopkinsville, Ky., office of the Tennessee Mid-South Regional Medical Program, the day begins with another sheaf of lifescing projects.

IF YOU DRIVE south to Florida on U.S. Highway 41, you pass through the quiet community of Hopkinsville, Kentucky, population 19,465. It is surrounded by hardwood forests checkerboarded by golden fields of ripening tobacco. Here and there, the rolling horizon is punctuated by rising wisps of smoke from blackened curing shacks.

Until recently, if you were stricken with a heart attack in Hopkinsville, the nearest coronary-care unit would have been in Nashville, Tennessee, some 70 miles away. (Heart-attack patients in small towns receive excellent treatment; however, intensive-care facilities contain vital specialized equipment.)

Today, a family doctor with a heart patient in Hopkinsville's Jennie Stuart Memorial Hospital merely picks up his phone, dials 79, and is on a direct line to Vanderbilt University Medical School in Nashville. He need only ask the operator to be connected with a cardiologist, with whom he can quickly consult.

Now being installed, and perhaps in operation by the time you read this, will be an even more direct communication link. Electrical signals (ECG, for electrocardiograph) from sick hearts will be sent directly over trunk lines to Vanderbilt's coronary-care unit (CCU). There the readings will be interpreted by a cardiologist, who can analyze them over the phone for the patient's doctor and offer advice on treatment.

Before long, hospitals in seven smaller communities within a 60-mile radius of Hopkinsville will be on the ECG communications line. Muhlenberg Community Hospital in Greenville, Kentucky, 48 miles north of Hopkinsville, already has an always-open phone hookup.

An ECG line also is in operation between Vanderbilt and the Williamson County Hospital in Franklin, Tennessee. Franklin is only 18 miles from Vanderbilt, but in terms of a heart-attack victim, that represents about 30 minutes by ambulance—half an hour which could easily mean the difference between life and death.

The Williamson hospital has a newly built coronary-

care unit with piped-in oxygen, heart monitors, and heart starters (defibrillators). Today, every blip from a sick heart shown on a monitor in the nursing station in Franklin's CCU also glows on a monitoring screen at Vanderbilt's CCU. The telephone line between the two hospitals is always open, so that a coronary-care nurse in Nashville who spots a change in a heartbeat signal can immediately alert the Franklin nurse to call a doctor and advise her what measures to take in the meantine

These new communication links between Nashville and its rural environs serve an urgent purpose: saving lives. In coming years, similar networks will be multiplied throughout the nation. And this is just the beginning of perhaps the most ambitious medical care undertaking ever started. U.S. Surgeon General William H. Stewart has called it "one of the most exciting developments in the history of medicine."

Formally known as the Regional Medical Programs (RMP), it is a unique and effective coalition of federal government financing and coordination. local medical planning and implementation. Across the country, 24 Regional Medical Programs are now in operation, in areas as diverse as New York, New Mexico, South Carolina, and Oregon. Others are getting started in parts of Illinois, Hawaii, Pennsylvania, and Nebraska.

But the whole Regional Medical Program is still in its childhood and a long way from being ready to serve the tremendous needs seen for it five years ago.

That was back in March 1964, when Pres. Lyndon B. Johnson appointed a Commission on Heart Disease, Cancer, and Stroke, with famed Houston cardiovascular surgeon Michael E. DeBakey as chairman. The next month, when this distinguished committee of doctors, health administrators, and laymen met for the first time in the White House, the President said, "Unless we do better, two-thirds of all Americans now living will suffer or die from cancer, heart disease, or stroke. I expect you to do something about it."

The year before, this deadly disease trio took 1.2 million lives. Today, they account for more than 70 percent of all deaths in the nation. As the commission stated in its final report in December 1964, "Compared with them, all the other enemies of man—the great range of infectious diseases, accidents, congenital and nutritional disorders—fade into relative insignificance."

Ironically, the ascendancy of these three killers was the result of the most rapid and meaningful medical progress in history. The commission noted: "A few short decades ago, tuberculosis was the greatest single menace to American health. Pneumonia and influenza took a heavy toll each year. Infectious diseases of infancy cut off many lives that had barely begun. For the overworked physician of horse-and-buggy days, heart disease and cancer were far down on his list of preoccupations." Advances in medical science have lessened the dangers of TB, pneumonia, and the infectious diseases, making cancer, heart disease, and stroke the leading medical problems.

Research and its results in the Big Three diseases have been considerable. The chief problem is implementation. These illnesses are, (Continued on page 84)



Heartbeats of patient in coronary-care unit (top photo) of Franklin, Tenn., hospital are monitored by nurse. Signals simultaneously show on Vanderbilt CCU's screen in Nashville.

in medical parlance, chronic diseases. Unlike polio and measles, they apparently cannot be whisked away with an effective vaccine. They require buildings full of equipment, manned by doctors, nurses, and other personnel trained in special skills in addition to their extensive formal education.

Thus much knowledge exists to more efficiently care for heart disease, cancer, and stroke. But it needs to be lifted off library shelves and applied. In the words of the President's commission: "For every breakthrough, there must be follow-through."

The next step was up to Congress. After a year of hearings and parliamentary maneuvering, Public Law 89-239 was passed. President Johnson signed it on October 6, 1965.

To date, the 54 regions now organized have been awarded grants totalling some \$80 million. Last September, Congress extended the law for another two years and added amendments to make the programs more effective.

For the first time in American history, "health-market areas" were defined. These regions do not necessarily follow state borders. (Some states have two or even three regions within their borders.) Instead, the regions are natural communities of patients including one or more major medical centers, much as a residential community is served by shopping centers. [A medical center is any school or other institution which supplies postgraduate medical training, and its affiliated hospital (s).]

The concept of regionalization of health care services didn't begin with RMP. It first appeared more than three decades before. In 1932, remotely located hospitals and doctors in Maine were linked with university centers in Boston for the same purpose: learning to apply the latest medical techniques to current health problems.

Today, the 54 regions have received federal RMP grants to plan heart disease, cancer, and stroke programs. Each local project is unique; there is no "typical" region. Missouri's includes the western part of the state and is head-quartered at the University of Missouri's medical school in Columbia. The Bi-State RMP, headquartered in St. Louis, covers eastern Missouri and southern Illinois. Georgia's program includes the whole state and operates from offices of the Medical Association of Georgia.

The Tennessee Mid-South RMP includes eastern and central Tennessee and a contiguous part of Kentucky. The program is jointly administered by two medical schools: Vanderbilt University School of Medicine and Meharry Medical College. Until recently, Vanderbilt

was an all-white school, and Meharry was all-Negro; now both institutions are integrated.

The birth of Tennessee's RMP was arduous. Early in 1966, a committee of medical professors contacted 47 surrounding county medical societies to tell them about RMP and ask their needs.

"First we wrote them," recalls Dr. Lloyd Ramsey, associate professor of medicine at Vanderbilt. "Their responses were quite varied. You know, doctors are generally very skeptical about innovations, Many of them waited for some sort of edict. After a while, they realized that there would be no edict, that there would be no one to tell them what to do, and that they would have to define their own needs."

This is perhaps the greatest strength of RMP: While it was conceived at the national level, it is designed for strictly local implementation. The initial funds come from the federal government, but the programs spring from within the community.

The Vanderbilt committee visited every county medical society in their region. In most cases, because the idea was novel, they had to suggest the sort of help that a community might request to improve its care of heart disease, cancer, and stroke patients.

The experts found that the key to better care in the Tennessee Mid-South Regional Medical Program is better communications. This was obvious in the planning stages and has been proven true since the program became operational in February 1968.

According to Dr. Stanley W. Olson, first coordinator of the program, and now in Washington as national director of RMP (a division of the Department of Health, Education, and Welfare), "If it has done nothing else, it has enhanced relations between the races." Doctor Olson was speaking of the close cooperation between Vanderbilt and Meharry.

Dr. Frank A. Perry, Negro surgeon and director of Meharry's RMP projects, agrees. The program has made feasible follow-up education of the 86 Negro physicians in the state, Doctor Perry points out

Meharry has begun an intensive postgraduate education program for busy Negro doctors. It's designed to teach the physicians to apply results of new medical breakthroughs to save lives and decrease disabilities from heart disease, cancer, and stroke. At the same time, teams of visiting instructors are being organized to go out and teach the new techniques of care to doctors who can't leave their practices—even briefly. The instructors will be learning, too They will see how physicians in the hinterlands and city slums practice. They will get a better idea of how to better educate tomorrow's doctors.

Education also is a prime goal of the coronary-care links between Vanderbilt and outlying hospitals. The federal government paid the biggest part of the installation costs for the hospitals at Franklin, Tennessee, and Hopkinsville, Kentucky. But in two years these installations will be supported solely by local funds. In the meantime, the physicians of Franklin and Hopkinsville will have learned more about up-to-date care of coronary patients, including the skillful new interpretations of ECG's and the complex but crucial care of patients in their first minutes, hours, and days after heart attacks.

Then, once the coronary-care teams at Hopkinsville and Franklin are operating, their doctors, in turn, can go out into the surrounding countryside to pass on their knowledge and teach newly acquired skills to others.

"Much of this information," explains Dr. Faxon Payne of the Hopkinsville hospital, "is passed on at national and state medical meetings. But the bedside training is missing. Besides, rural doctors seldom take time off to travel across the state or the country to medical meetings. We're going to have to bring their lessons to them, even if it means setting up mobile medical classrooms, which is something we are planning."

Doctors aren't the only ones who receive further education under RMP. Nurses from throughout the region have taken special RMP-sponsored coronary-care classes at Baptist Hospital in Nashville. They are schooled in the intricacies of heart attacks and the care of heart patients. They also learn how to use advanced electronic equipment to monitor diseased hearts and to "restart" them when necessary. The open trunk lines between Vanderbilt, Hopkinsville, and Franklin provide further education for these nurses.

So far, care and treatment of cancer patients in this RMP has concentrated on the further training of x-ray technicians in the use of radiation treatments. "In less than a year, we have doubled the number of radiation technologists in this county alone," Doctor Ramsey points out. In addition, Meharry plans a new course to train x-ray technicians and will open—a supervoltage radiation facility for treating cancers.

teams of visiting instructors are being organized to go out and teach the new techniques of care to doctors who can't leave their practices—even briefly.

One advance in radiation therapy is the computation of doses by computer. This system is far faster and more accurate than computing by hand. Thanks to the new trunk lines, and the new

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cooperation, all institutions within the Mid-South RMP may soon have direct lines with the big Vanderbilt computer, and, potentially, with any other computer installed in the program.

For example, Meharry and its neighbor, Fisk University, plan to install data-processing equipment which will do computations while linked to the Vanderbilt computer's much larger memory.

Among the exciting projects scheduled for this computer complex by Meharry's Dr. Leonard Victor is MultiTesting—which includes automated, computerized processing of blood and other samples from patients. This system is designed to help doctors screen some 100 patients a day. Its primary aim is detection of minor clues which can give advanced warning of serious disease—warning which comes early enough to permit heading off heart attack, cancer, or stroke before they become major disasters.

The tests will not replace the doctor, but will help him to practice preventive medical care better and more accurately. They will supply accurate data to supplement what he finds in physical exami-

nations of patients.

Hopkinsville doctors also plan to link up to the Vanderbilt computer to help compute doses of radiation to treat cancer. And they have devised another imaginative, lifesaving use of the trunk line. A rural doctor, simply by dialing the phone, can talk to the librarian of a medical school, thus gaining access to vital, hard-to-attain information. The librarian can find the information pertinent to a patient and his treatment. read the highlights to the doctor, then duplicate the material and mail it to the physician's office. In the near future. all the information may be sent instantly via facsimile transmission.

In the meantime, the horizons of the Tennessee Mid-South RMP are expanding. Next to join the network probably will be an extended-care facility at Oneida, Tennessee. The greatest problem of this remote Cumberland Mountain facility is staff. Once enough health people are recruited, RMP will retrain them in the intensive posthospitalization care of elderly patients.

Dr. Robert Metcalfe, who now heads Tennessee Mid-South RMP, knows the problems well. He practiced as an internist in Crossville (population: 4668)

for 22 years.

"I was amazed," he recalls, "when the Vanderbilt faculty team first came through and talked to me about my practice. The burdens of rural practice are heavy. I asked, 'What do you have?' and they answered, 'What do you want?' When I said I wanted a coronary-care unit and radiotherapy unit they didn't even blink." In 1967, Doctor Metcalfe left the group practice he had organized and went to Nashville to work in RMP. Since he knows the needs of doctors in his region, he is very responsive to their requests. "At the moment, we are considering 35 proposals, of which only five or six are likely to be recommended," he says.

His predecessor, Doctor Olson, now in Washington, states: "The problems of medical care are getting more complex. The Regional Medical Program idea is a good solution to many of the problems. It encourages people at local levels to adopt the latest techniques to their needs. It allows the practicing doctor to use the latest results of scientific progress in his practice."

Here's a sampling of what other RMP's across the country are doing to help roll back the death rates and improve treatment of heart disease, cancer, and stroke:

- The Albany, New York, RMP has set up a special program to detect and treat cervical cancer. The program involves educating women to take "pap" smears, training nurses and doctors in the proper methods of taking smears, and their proper interpretation. The project stresses the need for follow-up. As soon as a cancer is suspected, both the patient and her doctor are notified; later the doctors are queried to see what retesting showed and whether the treatment was begun.
- Project Radiate is the Missouri-RMP's unique facility which lets a radiologist "talk over" what he sees on an x-ray with a computer. This "discussion" lets the doctor make his own heart-disease, cancer, or stroke diagnosis—on the basis not only of his own findings, but of information which the computer has drawn from case histories and other sources.
- The North Carolina RMP has a Cancer Information Center enabling family doctors in outlying areas to get immediate consultation via telephone on problem cancer cases. This is followed up by printed material sent to them on the specific cases in question. Three medical schools are involved in this information project.
- Stroke teams in 16 communities of the Iowa RMP are beginning educational programs for health personnel dealing with stroke patients. They will consult with physicians, strengthen arrangements for continuity of care, and supervise nursing rehabilitation services.
- Doctors in remote areas of southeast Alaska are linked by phone and radio to Seattle, under auspices of the Washington-Alaska RMP. The lines permit lectures, consultations, seminars, and ECG hookups.

- A bank of special computerized data is available to radiologists in Madison and Milwaukee for use in radiation treatment of uterine cancer. Eventually all hospitals in the Wisconsin RMP will have access to such computer information, which permits accurate radiation treatment of this leading cancer killer of women.
- As the original DeBakey report stated, "... heart disease, cancer, and stroke need not kill so many people today ... Tomorrow still more premature deaths will be within our power to prevent."

The 54 Regional Medical Programs are moving toward this goal. Their victories will be measured in lives saved and disabilities diminished.